Bio Energy Generation Programmes

699. SHRI RAMDAS AGARWAL : Will the PRIME MINISTER be pleased to state :

(a) what efforts have, so far, been made to develop and demonstrate technologies and practice packages for gainfully utilising the internally generated Biomass, available wastes and residues to generate energy and power in the country (State-wise) during 1992-93 and 1993-94; and

(b) what programmes were discussed and decided in the last conference of state Ministers Incharge of Non-Conventional Energy Sources, regarding Bio Energy generation during 1992—94 indicating the amount of Central Subsidy (Rupees) likely to be given to the beneficiaries of Orissa and Rajasthan etc. as compared to the beneficiaries of other States during 1992-93 and 1993-94 ?

THE MINSITER OF STATE OF THE MINISTRY OF PLANNING AND PROGRAMME IMPLEMENTATION AND THE MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI SUKH RAM) : (a) Extension R&D work has been carried out to develop suitable indigenous technologies and practice packages for energy recovery from biomass wastes either through microbial or thermal/thermo chemical routes. Details are given in Statement I, II and III. (*See* below).

(b) No specific projects regarding Bio-energy programme were discussed at the State Minister's Conference. However, general issues related with this programme were discussed at the meeting along with other programmes and decisions taken to accelerate the non-conventional energy development for power generation. As regards central subsidy to Orissa and Rajasthan, for central assistance it will depend upon nos. of proposals posed by these states. So far, no projects from these two states related with Bio energy programme are pending.

Statement-I

Bio-methanation Route :

Technologies/practice packages have been developed at Pilot plant scale for conversion of waste material like agro waste, kitchen waste, non-edible deoiled cakes, sugarcane pressmud, dairy waste, willow dust, water hyacinth, distillery waste, hospital waste, municipal sewage waste, tannery waste, horse dung, kitchen waste, banana waste etc. through biomethanation route. Pilot plants of capacities varying from 10 cu. m. to 60 cu. m. capacity have been installed at different locations in the country. Efforts have been initiated to scale up these pilo. plants further in association with respective user groups.

Statement-II

Thermo-chemical conversion Route :

As a result of Research and development in the biomass gasification technology over last 4-5 years, six technologies have already been developed for gasification of biomass wastes. These units are being manufactured by 6 different entrepreneurs in the country. The systems based on these technologies are capable of converting biomass wastes such as wood waste, wood chips, twigs, cotton stalk, tur stalk, maize cobs, rice husk, etc. to energy and power through gasification. These devices run duel fuel engine or stirling engine to produce motive power to operate pumpset for irrigation or drinking water or to produce electricity through alternators. These biomass pumpset and gensets are available in different ratings from 5 HP to 10 HP for mechanical applications i.e. water pumping and from 3 KW to 100 KW for generation of electricity. These systems substitute/replace diesel fuel in conventional duel fuel engines for respective applications by over 65%. For promotion of these technologies, Government have taken up a demonstration programme cost sharing basis, upto an extent of 80% for mechanical water pumping system (i.e. 5 HP and 10 HP rating) and 50-80% for electricity generation system depending upon the category of users. So far, 1000 nos. of gasifiers and stirling engine systems, in different ratings and modes, equivalent to about 7.5 MW have already been installed all over the country. Most of these systems are installed in rural areas and are being utilised either for water pumping or for irrigation purpose or for electricity generation.

Statement-III

A 10 MW Rice Straw based Fluidised Bed Combustion pilot project to demonstrate utilisation of surplus rice straw in

large quantity for decentralised power generation in rural areas has been built at Jalkheri near Patiala, Punjab. The plant was test fired upto 8.8 MW. The plant with indigenously developed equipment is undergoing further endurance trials. The project envisages utilising about 70,000 tonnes of surplus rice straw per annum and generate about 10 MW power. On successful operation of this pilot plant, the technology could be adopted to formulate long term plan for utilisation of surplus rice straw for power generation and cogeneration.

A pilot project of development of cogeneration technology in MRK (Sethiathope) and Cheyyar Cooperative Sugar Mills, Tamil Nadu have been taken up. The project envisaged installation of higher pressure and higher-efficiency boiler and turbo alternator (3×2.5 MW) for efficient utilisation of bagasse to produce about 4 MW of surplus power for export to grid. The project at MRK Cooperative Sugar Mills has been commissioned in June, 1992. The plant at Cheyyar Cooperative Sugar Mills, Tamil Nadu is under advance stages of installation and one turbo set feeding the internal power requirement of mill is already commissioned .

अलीगढ़ जिले में सौर ऊर्जा संयंत्र का निर्माण

700. **श्री शांति त्यागी** : क्या प्रधान मंत्री यह बताने की कृपा करेंगे कि :

(क) क्या यह सच है कि उत्तर प्रदेश के अलीगढ़ जिले में केन्द्रीय सहायता से सौर ऊर्जा से बिजली उत्पादन करने वाला संयंत्र निर्माणाधीन है;

(ख) यदि हां, तो इसकी विद्युत उत्पादन क्षमता क्या होगी और इसके कब तक पूरा हो जाने की संभावना है; और

(ग) क्या उत्तर प्रदेश में किसी अन्य सौर ऊर्जा संयंत्र को सहायता देने का कोई प्रस्ताव केन्द्रीय सरकार के विचाराधीन है ?

योजना और कार्यक्रम कार्यान्वयन मंत्रालय के राज्य मंत्री और गैर-पारम्परिक ऊर्जा स्रोत मंत्रालय में राज्य मंत्री (श्री सुख राम) : (क) जी, हां ।

(ख) अलीगढ़ जिले में सौर प्रकाश वोल्टीय विद्युत संयंत्र की क्षमता 100 किलोवाट है। यह संयंत्र जनवरी, 1993 से चालू किए जाने की संभावना है ।

(ग) केन्द्रीय सरकार की सहायता से इसी प्रकार की क्षमता का एक दूसरा संयंत्र भी उत्तर प्रदेश में स्थापित किया जा रहा है । सौर प्रकाश वोल्टीय विद्युत संयंत्रों के लिए सहायता हेतु उत्तर प्रदेश सरकार से कोई अन्य विशिष्ट प्रस्ताव प्राप्त नहीं हुए हैं ।

Scheme for Harnessing Solar Energy

701. **SHRIMATI VEENA VERMA :**
SHRI MURLIDHAR CHANDRAKANT BHANDARE :

Will the PRIME MINISTER be pleased to state :

(a) whether any scheme has been received from the Government of Madhya Pradesh, Maharashtra, Gujarat and other States and Union Territories for harnessing solar energy to the optimum level both through solar thermal and photo voltaic systems during this year; and

(b) if so, the details thereof, indicating State-wise the total energy to be harnessed thereby, alongwith the modes of utilisation thereof ?

THE MINISTER OF STATE OF THE MINISTRY OF PLANNING AND PROGRAMME IMPLEMENTATION AND THE MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI SUKH RAM) : (a) and (b) The Government is implementing Solar Thermal and Photovoltaic Programmes for demonstration and utilisation of solar energy in the country including Madhya Pradesh, Maharashtra and Gujarat. Low grade solar thermal devices and solar cookers are being made available to the users under the Extension Programme with central subsidy. Photovoltaic systems are being installed in unelectrified and remote villages under the demonstration programme. These programmes are being implemented through the State Nodal Agencies and/or Electricity Boards in their respective States.